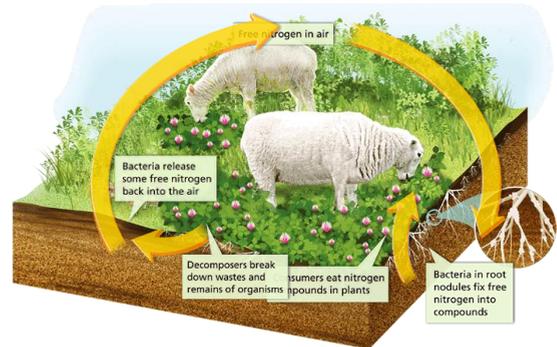


The Nitrogen Cycle

- Nitrogen moves from the air to the soil, into living things, and back into the air.
- Nitrogen gas is plentiful in the atmosphere (78%) but cannot be used until it is “fixed”.
- Most nitrogen is fixed by bacteria.
- They change free N to useable N.



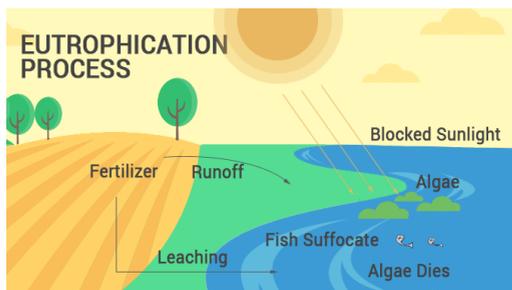
The Release of Nitrogen

- All living things use Nitrogen to build proteins and nucleic acids (DNA, RNA).
- Decomposers can break down waste (including animal waste) and return it to the atmosphere.
- Nitrogen fixing bacteria can live on the roots of legumes, such as peanuts and beans.

The Human Impact: Nitrogen Cycle

- Fertilizer runoff from farms can increase the amount of nitrogen in water systems
- Runoff from urban area increase amount of nitrogen in water systems
- Eutrophication
 - As nitrogen builds in water system it causes the growth of plants
 - As plant life becomes dense, animal (fish, etc.) species start to die because of lack of oxygen

The Human Impact: Nitrogen Cycle



Human Impact: Fertilizer Runoff

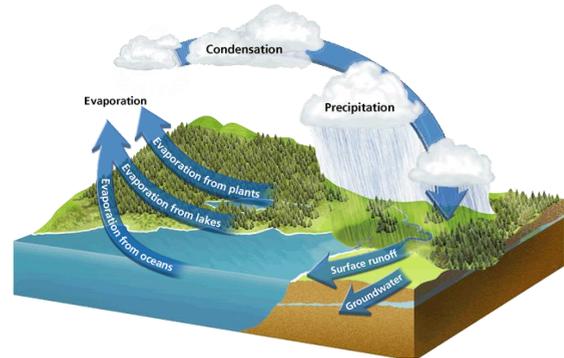


The Water Cycle

•The continuous process by which water moves from the Earth's surface to the atmosphere and back.

It uses the process of:

- Evaporation and transpiration (plants) (liquid to gas)
- Condensation (gas to liquid)
- Precipitation (water vapor falls to Earth)
- Runoff (water runs off the surface of the land to waterways)



The Human Impact: Water Cycle

- Urbanization
 - The shift from rural to urban living
 - Increases the risk of flooding in an area because water is unable to be absorbed by soil
 - Paved areas such as parking lots and roads are more likely to flood because water is not absorbed by the concrete or asphalt

The Human Impact: Water Cycle



The Human Impact: Urbanization



The Human Impact: Water Cycle

- Factories, cars, and burning trash can pollute the atmosphere with sulfur dioxide and nitrous oxide
- Sulfur dioxide and nitrous oxide mix and react with water and oxygen to form ACID RAIN
- Acid rain can kill plants
- Acid rain can also corrode metal and dissolve limestone

Acid Rain Effect on Mount Mitchell



Acid Rain Effect on Metal



Acid Rain Effect on Limestone Buildings

